Maryland Vegetable Growers' Association

News Letter

1938

January

The Annual Meetings
Report of Potato Prize Winners

February

Bulletin Revised
Fertilizer Experiments on Long Island
Canners School

March

Northeastern Vegetable & Potato Council
Variety Demonstrations
New Horticultural Farm
Is Agriculture Backward

April

The Status of Vegetable Seed Legislation in the U. S.

May

Vegetables of New York
Shy on Water
Methods of Applying Fertilizer
Pea Field Meeting

June

Potato Field Day
Summary Potato Improvement Since 1924
Outline of Potato Experiments

July

Japanese Beetle Tour
Improved Varieties
Action of Manure
Optimum Temperatures

August

History and Description of Maryland Savoy Spinach
Originator of Mary Washington Asparagus Dead

September

The Annual Meetings
Schedule for Vegetable Exhibits
Schedule for Potato Show

October

Rate of Seeding Tests (Limas) 1937
Certification of Vegetable Seeds
Color Photography to the Front
Diseases of Vegetables

November

Thos. H. White Retires
Serious Problem with Sweet Corn
Japanese Beetle Work
Pres. Hawkins Appoints Committee
Potato Disease in Maryland, 1938.

December

Is There Danger Here?
Freezing Vegetables
Annual Meetings - Program.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard
Secretary-Treasurer.

Vol. XV. No1. College Park, Maryland. January, 1938.

The Annual Meetings. The morning session was devoted to an educational program, Mr. S. L. Crosthwait pinch-hitting for Dr. Langford, outlined the retardation program for the control of the Japanese beetle. Counties, cities, towns and communities are being asked to match appropriations are being asked to match appropriations from state and federal funds in order to do a thorough going job in trapping, spraying, and soil treatment.

Mr. Crosthwait cited figures to show the seriousness of the damage being done in heavily infested areas.

Dr. Diehl, of the United States Department of Agriculture, described the rapid progress being made in the development of the freezing preservation of fresh vegetables. Only certain types of vegetables are adapted to this method. Tomatoes are not at all suitable, while peas are particularly well suited to the freezing method. String beans, cauliflower, broccoli, and spinach are a few of the other crops which are being preserved in this way.

The fresh qualities of these vegetables are strikingly preserved when properly handled. Problems of storage and distribution are rapidly being worked out and the method will undoubtedly have a rapid expansion in the near future.

Dr. C. E. Temple, reviewed the progress made in the development of resistant strains of vegetables and described the methods used in the selection of such types. Projects now in progress were outlined and the possibilities of further developments along these lines were discussed.

The afternoon discussion was given over to a consideration of the better organization of vegetable growers. The concensus of opinion seemed to be that, because of great variations in conditions within the State, some sort of a regional set-up would best fit the needs of the industry. As a result of the discussion, a committee was appointed to formulate a plan of organization and operation.

The following resolutions were adopted by the Association:

Be it resolved that the Maryland Vegetable Growers' Association go on record as favoring the campaign for retarding the spread of the Japanese beetle.

Resolved: —— that the Maryland Vegetable Growers' Association favor the extension of the seed law to cover seeds of vegetable crops.

Resolved: —— that the Maryland Vegetable Growers' Association ask the University of Maryland to carry on more demonstration work in the vegetable growing counties where the growers request such work.

Resolved: —— that the Association develop a program of activities in the various producing regions of the State which will help in the solution of specific problems relating to the industry.

And be it further resolved: that we extend our appreciation to our secretary, W. R. Ballard for his untiring efforts in behalf of the Association.

The Auditing Committee reported that the Treasurer's accounts seemed to be in good shape and showed a balance as of December 31, 1937 of $68.23. The report was adopted.

The nominating committee presented the following list of candidates and these were unanimously elected as officers for 1938.

President:- Egbert Hawkins, Brooklyn
Vice-President:- H. Street Baldwin, Hyde
Secretary-Treasurer:- W. R. Ballard, College Park
Directors:- H. J. W. Rayner, Salisbury
J. Miles Lankford, Pocomoke
J. Forney Young, Hagerstown

Director for Farm Bureau:- F. Ridgely Todd, Sparrows Point
Delegate to Farm Bureau:- R. T. Merritt, Sparrows Point
*Director for Agricultural Corporation:- W. G. Lynch, Dundalk.

*Due to the fact that the Agricultural Corporation is soon to be absorbed by the Southern Cooperatives, it was voted that the director was to serve as representative in the new set-up is such representation was required.

Potato Show. There was approximately a 30% increase in the number of entries in the potato show over that of last year. A serious outbreak of late blight undoubtedly prevented an even larger showing. The list of awards announced by the judges, Dr. C. E. Temple, Thomas H. White, and Dr. C. M. Mahoney, is as follows

ADULT CERTIFIED

Irish Cobblers - 1st., Foster Yost, Accident; 2nd., Merrill Beauchamp, Berlin.
Smooth Rurals - 1st., Foster Yost, Accident.
Russet Rurals - 1st., Richard DeBerry, 2nd., Wm. P. DeBerry, 3rd., Wm. F. DeBerry, 4th., Robert DeBerry, all of Oakland.
Dakota Red - 1st., Wm. Cissil Simpson, Jr., Clarksville; 2nd., Clark Crawford, Keedysville; 3rd., John Jehle, Hyattsville; 4th., Geo. Buckingham, Marriottsville.
Any Other Variety - 1st., Wm. F. DeBerry, Oakland; 2nd., Howard Schlosnagle, Accident; 3rd., Wm. P. DeBerry, Oakland.
SWEET POTATOES - 1st., Carl H. Smith; 2nd., Robert T. Williams, Salisbury; 3rd., Levin Evans, Hebron.

ADULT COMMERCIAL

Irish Cobblers - 1st., Roger Burtner,; 2nd., Howard Burtner, Keedysville; 3rd., W. A. Walker, Mt. Airy; 4th., Foster Yost, Accident; 5th., R. W. Burtner, 6th., Raymond Burtner, Sharpsburg.
Any Other Early Variety - 1st., Wm. A. Walker, Mt. Airy; 2nd., Louise Burtner, 3rd., Edwin Burchner, 4th., Howard Burtner, Keedysville.
Smooth Rural - 1st., Howard Schlosnagle, 2nd., Emmert Miller, Accident; 3rd., Mrs. W. A. Custer, Friendsville; 4th., C. W. Baker, Edgemont; 5th., Paul Miller, 6th., Lloyd Miller, Accident.
Russet Rurals - 1st., W. C. DeBerry, 2nd., Robert DeBerry, 3rd., M. E. DeBerry, Oakland; 4th., John P. Speicher, Accident; 5th., C. W. Baker, Edgemont; 6th, Ralph Baker, Mt. Lake Park.

Dakota Red -1st., Wm. Cissil Simpson, Jr., 2nd., Mrs. Wm. Simpson, Jr., Clarksville; 3rd., Howard Burtner, 4th., Edwin Burtner, Keedysville; 5th., Geo. Buckingham, Marriottsville; 6th, W. Harding, Cambridge.

Any Other Late Variety - 1st., D. T. Walker, Mt. Airy; 2nd., Paul Miller, Accident; 3rd., Robert Doberry, Oakland; 4th., Paul Morelock, Westminster; 5th., John R. Jehle, Hyattsville; 6th., Elinor Morelock, Westminster.

SWEET POTATOES - 1st., Carl Smith, 2nd., Carl Smith, Jr., Salisbury.

4-H CLUB, CERTIFIED AND COMMERCIAL

Early Varieties - 1st., Roger Burtner, Keedysville; 2nd., Eugene Schlosnagle, Accident; 3rd., Waldon Burtner, Boonsboro; 4th., Morris M. Martin, Westminster; 5th., Clark Crawford, Keedysville.

Medium Late Varieties - 1st., Eugene Schlosnagle, 2nd., Robert Miller, Accident.

Rurals (Russet & Smooth) - 1st., Marvin Schlosnagle, Accident; 2nd., Cecil Sisler, Friendsville; 3rd., Junior Schlosnagle, Accident; 4th., Wilbur Thomas, Friendsville; 5th., Robert Miller, 6th., Richard Kolb, Accident.

Any Other Late Variety - 1st., Stephen Moreland, Westminster; 2nd., Roger Burtner, Keedysville; 3rd., John R. Jehle, Hyattsville.

F. F. A. CERTIFIED AND COMMERCIAL

Early Varieties - 1st., Clark Crawford, Keedysville; 2nd., Arthur Fouche, Adamstown; 3rd., Thomas Covell, Frederick; 4th., Roger Burtner, Keedysville.

Late Varieties - 1st., Clark Kolb, Accident; 2nd., Roger Burtner, Keedysville; 3rd., Cecil Sisler, 4th., Wilbur Thomas, Friendsville; 5th., Clifton Link, Sandy Springs; 6th., Herbert Seabold, Accident.

New Professor of Olericulture Appointed. Dr. C. E. Mahoney, Research Associate in Horticulture at Michigan State College, has been appointed Professor of Olericulture in the Department of Horticulture of the University of Maryland, it is announced by Dr. A. Lee Schrader, Head of the Department. Dr. Mahoney will be in direct charge of teaching, extension and research phases of vegetable work at College Park.

Dr. Mahoney is a graduate of three institutions, having received his bachelor of science degree from the University of Arizona in 1923; his master of science degree from Texas Agricultural and Mechanical College in 1925; and his doctor of philosophy degree from Michigan State College in 1931.

From 1923 to 1925 Dr. Mahoney was Assistant Cotton Breeder at the Texas Experiment Station; from 1925 to 1927 he was Associate Professor of Horticulture and from 1927 to 1931, Professor of Horticulture and Genetics and Head of the Department at Texas Technological College; and from 1931 to 1937, Research Associate and Specialist in the Extension Service in Charge of Vegetable Crops at Michigan State College.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard
Secretary-Treasurer.

Vol. XV No. 2 College Park, Maryland. February, 1938.

Bulletin Revised. Extension Service bulletin, No. 70, The Small Vegetable Garden, has lately been revised bringing the information up to date as well as adding some new material. Sections added include some general information on the hub garden and the storage of vegetables for winter. The bulletin is designed primarily for the home gardener. Commercial growers will find some information of value, but will need this supplemented by more detailed directions for specific crops.

Fertilizer Experiments on Long Island. As a result of experiments running for nine years on a sassafras silt loam on Long Island, Bulletin 678, published by Cornell University, makes the following recommendations;

The results obtained in this experiment indicate that, on the type of soil used, the fertilizer for asparagus should supply approximately 100 pounds of nitrogen, 125 pounds of phosphoric acid (P_2O_5), and 160 pounds of potash (K_2O), to the acre annually during the first four or five years. This can be supplied by applying one ton of 5-6-8 complete fertilizer or one-half ton of 10-12-16 or similar analysis to the acre. After about five years the quantity of fertilizer might be reduced slightly without reducing yield.

Manure is not recommended unless it is available at relatively low cost, not exceeding two dollars a ton. Since the benefits from the use of manure in this experiment were not apparent during the early years of the experiment, it is probable that a better method would be to apply manure to the crops preceding the asparagus and to apply a complete fertilizer annually to the asparagus bed.

Canners School. A very successful school for canners and field men was held at the University recently. Since much of the production material is of interest to truck growers, a copy of the condensed report is appended to this letter.

There is being included also a chart giving treatments of various vegetable seeds to control certain diseases carried in or on the seed. It is believed that growers should take advantage of every opportunity possible to limit the hazards which attend the production of vegetable crops. There is a tendency in modern times to belittle the idea of making two blades of grass grow where only one grew before. It is very doubtful, however, that efficient production will ever cease to be important. Efficient unit production should not be confused with excess total production.

NEWS LETTER

Issued by
The Maryland Vegetable Grower's Association.
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 3. College Park, Maryland. March, 1938.

Northeastern Vegetable and Potato Council. Eight states were represented at the meeting of the Northeastern Vegetable and Potato Council meeting at New York City on March fifth. Dr. C. H. Mahoney represented Maryland.

A constitution for the organization was adopted. The object is to promote and encourage the advancement of the vegetable and potato industries of the twelve northeastern states. The membership is to consist of three members from each state representing both the vegetable and potato organizations. If not represented by such organizations, the State College of Agriculture or State Board of Agriculture shall represent the State. The annual State fee is ten dollars.

Discussion regarding the fact that vegetable and potato growers in the northeast had received a reduction in possible compensation for participating in the Agricultural Conservation Program from what was originally scheduled for the program, while certain other commodities, staples, had received better treatment than originally scheduled, emphasized the need of such an organization through which could be voiced the needs of vegetable and potato growers in connection with Federal programs. Growers must be organized if their voice is to be heard.

Vegetable growers in this region are a part of the national picture and must be in a position to make definite suggestions regarding both State and Federal laws relating to market agreements.

Other points brought out in the discussion were as follows: Production and marketing programs should be based on the needs and wants of consumers. Marketing problems in some states center around market places, such as areas and ability to ship outside. Standardization of packages was considered important. Market agreements was felt not so practical for vegetables except in large producing areas - useful for a crop like potatoes. Some thought market agreements might keep seconds and culls off the market.

Considerable discussion was given to the desirability of devising a plan for the Federal Surplus Commodity Corporation to buy surpluses of perishables as they occur. Whether this buying should be done at terminal markets or at shipping points was discussed. Dr. Meal of the A. A. A. brought out that the buying could best be done at terminal markets. A schedule of prices for the various vegetables set up to determine when a surplus existed might make it possible to begin buying at a moments notice. It was felt that a large sum of money for this purpose would not be necessary as the psychology of the situation often makes it unnecessary to actually buy large quantities.

Some thought the growers would eventually have to control the surpluses themselves - government buying not being a normal function - and that surpluses would probably exist for some years to come.

That consumption should be increased rather than raising prices was expressed by some. Better merchandizing was offered as a better solution than Federal programs.

Better crop and market reporting and less forecasting of prices was felt desirable.

Because of the relative importance of the vegetable and potato industries in the northeastern states, it was recommended that one of the regional research institutions provided for in the new Agricultural Bill be established in this region and that one-fourth of the funds allotted be used for research in the marketing of vegetables and potatoes.

The next meeting is scheduled for April 9th.

It would seem desirable for Maryland to be represented on this Council and some thought should be given as to how this should be brought about. States organized to look after their interests will at least know what is transpiring and will then be in a position to voice objections or take advantage of opportunities offered.

Variety Demonstrations. Tests of new and standard varieties and strains of vegetables will again be carried on near Salisbury, Maryland. The types to be included in the tests will be tomatoes, peppers, string beans, limas (big podded), cucumbers, canteloupes, watermelons (wilt resistant) and sweet potatoes.

Demonstrations in fertilizer placement will also be conducted at the same place.

New Horticultural Farm. Because of certain adjustments made in recent months, the horticultural farm at Beltsville has been taken over largely by the Horticultural Field Station of the U. S. Department of Agriculture. To compensate for this transfer, the University has recently purchased some 500 or more acres of land located approximately 7½ miles northwest of the University campus. This tract comprises that area known as the Nash and Wilcox farms. It will be used jointly by the Agronomy and Horticultural departments.

During the present year much preliminary work is to be done particularly in the development of necessary buildings and equipment. Before starting experimental plots a thorough study will be made of the fertility responses of the fields as they now exist. This fundamental information is essential in order to correct readings in experimental plots to make them fairly comparable.

Is Agriculture Backward? A recent report from the National Resources Board indicates that until the depression drove a great many city dwellers back to the rural sections, that agriculture showed a higher technical advance than did industry. One need only compare the advertisements in an up-to-date trade journal with those of twenty-five or more years ago to see what rapid progress has been made. Agriculture must use more efficient methods, cut costs (this may mean paying more for labor, but using more machinery) and lower the price to consumers in order to meet the fierce competition of modern life.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association.
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 4. College Park, Maryland. April, 1938.

Mr. F. S. Holmes, of the State Seed Laboratory, contributes the following article relating to the status of vegetable seed legislation. A resolution passed at the last annual meeting asked for such legislation for Maryland. As indicated by Mr. Holmes, laws must be backed up by public opinion and information relating to the subject must be given to the growers in order to back up the matter.

The Status of Vegetable Seed Legislation in the United States. The first agricultural seed law was passed by the State of Maine about forty years ago. Now all but two states, Florida and Georgia, have agricultural seed laws. The importation of many kinds of agricultural seeds has been controlled by Federal law for about twenty-five years, and for about five years we have had some Federal control of inter-state shipments of seeds.

Vegetable seed legislation has lagged behind field seed laws. While there are only two states without agricultural seed laws there are fifteen without vegetable seed laws. In many states having vegetable seed laws they are not as all-inclusive as the agricultural seed laws nor is as much attention given to their enforcement. A number of reasons might be cited to account for the relative lack of interest in vegetable seed laws but this would take up too much space in this brief statement.

In recent years there has been a decidedly growing interest in vegetable seed legislation. Not only have acts been passed by state legislatures but law enforcement officials have been taking greater interest in work with vegetable seeds than was taken a few years previously. So many states now have vegetable seed legislation that there is grave danger that states having no such laws will become the dumping ground for less desirable vegetable seeds. It is only to be expected that the better seeds will go where there is insistance for them and that the poorer seeds will go where there is manifest indifference as to the quality of seeds that may be sold the public.

The following states have no vegetable seed law:

Florida	Kansas	New Mexico
Georgia	Maine	South Carolina
Idaho	Maryland	Tennessee
Illinois	Montana	Vermont
Iowa	Nebraska	Pennsylvania.

The remaining thirty-three states have laws of varying character both as to form and thoroughness of enforcement. No law is of any use unless there is the weight of public opinion back of it. In all too many cases seed laws, agricultural and vegetable, have been pased and all but forgotten.

The largest group of states having some form of vegetable seed legislation treat vegetable seeds much as they treat field seeds. These states are:

Indiana	Alabama	West Virginia	Delaware
Kentucky	Massachusetts	Utah	Minnesota
Nevada	Louisiana	Arizona	New Hampshire
Wyoming	Oklahoma	California	Texas.

There is another group of states having vegetable seed laws with what may be called special provisions of one form or another. They are:

Arkansas	Colorado
North Dakota	Wisconsin
South Dakota	New Jersey
North Carolina	Ohio
Washington	Oregon.

The final group of states having vegetable seed laws provide therein that "each container" of vegetable seed must be labeled with certain information. This puts small packets in the same category as larger lots of seeds. These states are:

Connecticut	Missouri
Michigan	Rhode Island
Mississippi	Virginia.
New York	

It will be noted that states without vegetable seed legislation are scattered from Maine to Florida in the East and from Idaho to New Mexico in the West. Those states having what may be fairly considered the most effective legislation are likewise scattered from coast to coast and from the Canadian border to the Gulf of Mexico. Apparently, there is no sectional interest or lack of interest in vegetable seed legislation. It is easy to understand why such states as Montana and Vermont with no particular interest in vegetable production are without such legislation. It would seem, however, that such states as Florida and Maryland with extensive interest in vegetables would not be found in the last fourth of our states to take note of so vital a matter.

It is only within the last few years that the Association of Official Seed Analysts has agreed upon vegetable seed legislation that the organization would recommend for enactment by the several states. Uniform legislation for field seeds was agreed upon over twenty years ago.

Early seed laws were enacted because of the crude and brazen practice of adulterating seeds with other kinds of cheaper and less desirable seeds or with inert matter. The detection of such adulteration was a comparatively simple matter in the laboratory and the extent or degree of adulteration could be expressed quite definitely by giving the percentage of the bulk of seed which was seed of the kind it was represented to be. It was soon found, however, that seed could be adulterated by using old seed of the same kind having little or no vitality without lowering the percentage of "pure seed" (seed of the kind under consideration). In order to prevent this form of adulteration it was found that the analysis for mechanical purity must be supplemented by a test to determine the percentage of the "pure seed" that would grow. Soon after seed testing started another item of information was found necessary to protect the user of seeds, namely, the presence of particularly

objectionable weed seeds.

These three main items of information have formed the basis of seed testing in the United States until quite recently. So long as strains or varieties of field seeds were not recognized or generally demanded seed testing supplied only these three items of information. While the demand for additional items of information concerning field seeds is just beginning to be recognized, it has been understood for some time that so far as vegetable seeds are concerned these three items of information (percentage of pure seed, percentage of germination, and noxious weed seed content) failed to provide the user with the knowledge he must have in order to judge whether or not a given lot of seed was suitable for the purpose he had in mind in growing the crop. Trueness to type or strain is of primary importance to the vegetable producer, particularly the market gardener or trucker.

In order to provide this essential item of information the testing of vegetable seeds must extend beyond the laboratory into the field where systematic trials of vegetable seeds must be carried on from year to year. Without this provision nothing worthy of the name of a vegetable seed law can be enacted and it is for this reason that such a provision is included in the Uniform State Vegetable Seed Law adopted by the Association of Official Seed Analysts last year.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF MARYLAND

UNIVERSITY OF MARYLAND
U. S. DEPARTMENT OF AGRICULTURE
COOPERATING

EXTENSION SERVICE

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association.
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 5. College Park, Maryland. May, 1938.

Vegetables of New York. Part IV of Volume I, Vegetables of New York, has recently been distributed. This completes the first volume of this monumental work, the previous sections of which included Part I, The Peas of New York; Part II, The Beans of New York; and Part III, the Sweet Corn of New York.

The present report is entitled, "The Cucurbits of New York" and describes in considerable detail the history of the cultivated cucurbits, systematic botany of the group, and classification and descriptions of squashes and pumpkins, muskmelons, and cucumbers. There are 49 full page plates of the most important types in full color.

As a reference work this will be particularly valuable to students and to breeders of vegetables since the descriptions of varietal characteristics are given in considerable detail. While this report is given for New York conditions, its field is broad enough so that workers will find its contents quite applicable to most sections of the United States. Officially this is a report of the New York State Agricultural Experiment Station and is printed by the J. B. Lyon Company, Albany, N. Y. The authors are William T. Tapley, Walter D. Enzie, and Glen P. van Eseltine.

Shy on Water. The rainfall so far this year as recorded at the College Park station is considerably below normal. The figures for the period up to and including May 9th are as follows:

January	2.70 inches
February	3.28 inches
March	2.16 inches
April	1.09 inches
May (1st to 9th)	.50
Total	9.73 inches

An inch rain per week during the growing season would be about ideal. Lack of moisture has injured the pea crop materially. This has been aggrevated further by a serious outbreak of aphids. The strawberry crop is unusually short and quite early due to the mild winter and early spring. Prices of strawberries have been good and this compensates somewhat for the low yields.

Methods of Applying Fertilizers. The recommendations of the National Joint Committee On Fertilizer Application issued April, 1938 may be of interest to the membership. The summary as applied to vegetable crops is given herewith.

CORN: When corn is check-planted, the fertilizer should be dropped at the hill and not drilled. Hill applications are best placed in bands 6 to 8 inches long on each side of the seed and separated from it by ½ to 1 inch of fertilizer-free soil and in a depth zone from 1 inch below to slightly above the seed level. Narrow bands, 1 inch or less in width, are satisfactory for quantities up to 200 pounds per acre. For heavier rates the width of band or the lateral separation of seed and fertilizer should be increased.

For drilled corn the fertilizer should be drilled uniformly in continuous bands in the same relative position as suggested for hill applications. Placement close to the seed is less damaging with heavy applications by the drilling method than with hill application.

POTATOES: Fertilizer should be applied in bands on each side of the seed piece with two inches of fertilizer-free soil interposed. The fertilizer bands should be on a level with or slightly below the seed piece. On sloping land, in order to avoid fertilizer shifting too close to the seed, it is recommended that the depth of fertilizer placement be about an inch below the seed level.

SNAP BEANS: Fertilizer should be applied in bands 1½ to 2 inches to each side of the seed and 1 to 1½ inches below the seed level.

LIMA BEANS: Fertilizer should be applied in bands, 2 inches to each side of the seed and 1 inch below seed level.

PEAS: Fertilizer should be applied in bands, 2 inches to each side and 1 inch below seed level for peas planted in wide rows, using a bean planter and not a grain drill. For canning peas, planted in narrow rows, in the eastern part of the United States, placement 2½ inches to one side and 1 inch below the seed level with a grain drill is recommended. No definite recommendations are being made for the Middle West.

KALE AND SALAD GREENS: Fertilizer should be placed in bands 2 to 4 inches to each side of the seed and 2 inches below the seed level on soils where fertilizer is needed at time of planting.

SPINACH: Fertilizer should be applied in bands, midway between the rows and 2 inches deep, if rows are not more than 9 inches apart, where as much as 1,000 pounds of fertilizer to the acre is used. It should be applied in bands 2 to 3 inches to the side of the row and 2 inches deep for wider rows, or where light applications of fertilizer are made for narrow-row plantings.

SWEET POTATOES: Sufficient work has not been done since 1932 to warrant changing recommendations of side-placement in wide bands on each side of the plants 10 days after setting, followed by fairly deep cultivation to insure mixing the fertilizer with the soil.

OTHER CROPS: Additional experimental work will be necessary with tomatoes, cabbage, lettuce, celery, cauliflower, and other transplanted crops to determine the best methods of placement. However, machine placement in bands 2 to 4 inches to each side of the plant at the time of transplanting, is good insurance against injury to the roots of newly-set plants by too high a concentration of fertilizer in the soil in contact with the roots.

Pea Field Meeting. Details relating to the Pea Field Meeting to be held at the Ridgely Field Station Wednesday, May 18th, are given in the letter by Herman Hunter and attached to this News Letter.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF MARYLAND

UNIVERSITY OF MARYLAND
U. S. DEPARTMENT OF AGRICULTURE
COOPERATING

EXTENSION SERVICE

NOTICE OF PEA FIELD MEETING

The University of Maryland cordially invites pea canners, growers and others interested in pea production to attend a field meeting at 1:30 p.m. Wednesday, May 18, at the Ridgely Sub-Station, Ridgely, Maryland.

Plot work to be seen this year includes:

1. Tests of seven varieties of sweets and five strains of Alaskas.

2. Preliminary trials of ten varieties and strains of sweets and four strains of Alaskas.

3. Spraying plots to determine the advisability of spraying each year for the control of the pea aphis.

4. Demonstrations to compare the effectiveness of different spray and dust materials.

5. Fertilizer placement test, comparing different band placements with drilled applications.

6. The influence of cyanamid on the breaking down of coarse organic material.

7. The effects of cyanamid on the growth of peas on root rot plots.

8. The influence of different intervals between fertilizer application and planting.

In all, there are from 175 to 200 plots of peas at the Sub-Station.

Aphis infestation is unusually heavy this year, and the spraying and dusting work should be showing up to maximum advantage by the 18th.

There will be no speaking - just a brief explanation of the various plots, which you may observe for yourself. Later, the yield results will be available to everyone desiring them.

H. A. Hunter
Canning Crops Specialist.

HAH-MKH
May 5, 1938.

NEWS LETTER

Issued By

The Maryland Vegetable Growers' Association

W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 6. College Park, Maryland. June, 1938.

Potato Field Day. The fifteenth annual field day was held at the W. T. Pilchard farm, Pocomoke, on Thursday, June ninth. Prof. J. E. Metzger greeted the hundred or more visitors. Other members of the University staff explained the various demonstration plots. The plots were in fine condition and the fertilizer and lime, spraying, disease control demonstrations and machinery exhibits created considerable interest. Several new seedling potatoes looked promising. Results from the plots will not be available until after the digging season, which will begin in this section about June 27th. The prospects look good for both a good yield and a good price if the crop is marketed in an orderly manner. The dry season has cut the crop short in the southern sections and it will be well out of the way before the opening of the Maryland shipping season.

SUMMARY OF POTATO IMPROVEMENT AND DISEASE CONTROL STUDIES SINCE 1924.

1. Although several of the new potato varieties appear to be very promising, none are at present recommended as a substitute for the Irish Cobbler variety.

2. The Warba is the most promising new variety. It has been tested since 1935 and has frequently outyielded the Irish Cobbler variety in both the early and late crop. It is a little earlier than the Irish Cobbler.

3. The Earlaine variety was tested in 1937 and again this year. Last year stands were poor but this year it looks very promising. It is smoother than the Irish Cobbler and just as early.

4. Studies with the Katahdin variety, begun in 1931, indicate that it can be profitably grown along with the Irish Cobbler, but not as a substitute for it. It frequently outyields the Irish Cobbler, but matures ten days to two weeks later.

5. Studies with the Chippewa variety indicate that it is not suitable to Worcester County conditions.

6. It is not necessary for the Eastern Shore potato growers to purchase northern grown seed for the early crop. With proper care and storage treatment late grown Eastern Shore seed will yield just as well as northern grown seed.

7. The time of coming up and maturing of late grown Eastern Shore Irish Cobbler seed can be varied within a period of two weeks by varying the storage temperature after the rest period is over. Temperatures of 65 degrees F. after Feb. 1, 80 degrees to 90 degrees F. after March 1 and 55 degrees F. during the entire storage period have given very good results.

8. Promising results are being obtained with the use of treated spring grown seed for planting the late crop, but these studies have not progressed far enough to permit the recommendation of this practice. For two years spring grown Warba potatoes soaked for one hour in a sodium thiocyanate solution (1 lb. to 12 gallons water) came up just as early with just as good a stand and yield as stored Warba and Cobbler seed from last year's crop. With all other varieties which have been tested the treated seed came up later with poorer stands and yields than stored seed.

9. Although late grown Eastern Shore seed stock is just as vigorous as northern grown seed stock, it is very difficult to keep it free from diseases. Climatic conditions on the eastern Shore favor leaf roll spread. Eastern Shore potato growers should purchase northern or mountain grown seed for their late crop from the best certified seed growers every year. Under no circumstances should the home grown seed be kept over two years.

1937 Yield in bushels per acre from early potato plot on farm of Willard T. Pilchard, Pocomoke,Md.
Field planted March 30 and 31
Potatoes removed from storage on March 18.

Medium Late Varieties

Variety	Seed Source	Yield in bushels per acre U.S. No.	Culls	Total
Chippewa	Maine	271	68	339
Katahdin	Maine	205	37	242
Katahdin	Eastern Shore	129	38	167
Houma	Maine	88	87	175

1937 Yield in bushels per acre from early potato plot on farm of Willard T. Pilchard, Pocomoke, Md. Potatoes removed from controlled temperatures on March 18, and from storage and heated basement on March 18.
Field planted March 30 and 31.

Early Varieties

Variety	Source and Treatment	Yield in bushels per acre U.S.No.1:	U.S. No. 2: and culls :	Total
Warba	Eastern Shore . Unheated basement	235	43	278
Irish Cobbler	Maine	229	46	275
Warba	Eastern Shore, Unheated basement 3rd consec. crop	227	47	274
Irish Cobbler	Garrett Co. Unheated basement	214	60	274
Irish Cobbler	Eastern Shore. 80°F exact after Mar. 5	210	59	267
U.S.D.A 45075	Maine	209	59	268
Irish Cobbler	Eastern Shore. Brooder House after Mar.1	209	58	267
Irish Cobbler	Eastern Shore. 90°F exact after Mar.5	207	59	266
Irish Cobbler	Eastern Shore .Heated basement after February 15	205	52	257
Irish Cobbler	Eastern Shore. Heated basement after January 15	202	52	254
Irish Cobbler (Nittany)	Garrett Co. Unheated basement	201	64	265
Irish Cobbler	Eastern Shore .Heated basement after February 1	199	52	251
Irish Cobbler	Garrett Co. Unheated basement	198	66	264
Irish Cobbler	Eastern Shore. 60°F exact after Feb.1	197	63	260
Irish Cobbler	Garrett Co. 60°F exact after Feb. 15	195	63	258
Irish Cobbler	Eastern Shore 60°F exact after Jan.15	195	59	254
Irish Cobbler	Eastern Shore Sweet Potato storage (55° approx.)	186	53	239
Irish Cobbler	Garrett Co. 50°F const.	177	79	256
Irish Cobbler	Eastern Shore 60°F exact after Feb. 15	176	60	236
Irish Cobbler	Garrett Co. Sweet Potato Storage (approx. 55°F)	170	66	236
Irish Cobbler	Eastern Shore .Unheated basement	169	47	216
Irish Cobbler	Eastern Shore 50°F constant	161	53	214
Irish Cobbler	Eastern Shore 4 yrs. Unheated basement	160	29	189
Irish Cobbler	Eastern Shore 7 yrs. Unheated basement	155	29	184
Irish Cobbler	Eastern Shore 40°F constant	148	30	178

1938 PLANTING PLAN FOR EARLY POTATO PLOTS ON
FARM OF WILLARD T. PILCHARD, POCOMOKE, MARYLAND

Field Planted March 23.

Four rows in each of the following plots:

1. Irish Cobbler, Maine. Spray with calcium arsenate 2-50
2. Irish Cobbler, Maine. Spray with Bordeaux Mixture 4-6-50 (hydrated lime) plus 2 pounds calcium arsenate.
3. Irish Cobbler, Maine. Spray with Bordeaux Mixture 4-6-50 (hydrated lime) plus 3 pounds rotenone
4. Irish Cobbler, Maine. Spray with calcium arsenate 2-50
5. Irish Cobbler, Maine. Spray with Bordeaux Mixture 4-6-50 (hyrdated lime) plus 2 pounds calcium arsenate
6. Irish Cobbler, Maine. Spray with Bordeaux Mixture 4-6-50 (hydrated lime)
7. Katahdin, Garrett County
8. Chippewa, Garrett County

Two rows in each of the following plots:

9. American Giant, Garrett County
10. Earlaine, Maine
11. Earlaine, Eastern Shore
12. Bliss Triumph, Garrett County
13. Warba, Garrett County
14. Warba, Eastern Shore
15. Warba, Eastern Shore, 3rd. consecutive crop
16. Warba, Eastern Shore, 5th consecutive crop
17. Nittany Cobbler, Garrett County
18. Irish Cobbler, Garrett County
19. Irish Cobbler, Eastern Shore. Unheated basement entire storage period, October 19-March 22
20. Irish Cobbler, Eastern Shore. Unheated basement October 19 to January 15, heated basement to March 22
21. Irish Cobbler, Eastern Shore. Unheated basement October 19 to February 1, heated basement to March 22
22. Irish Cobbler, Eastern Shore. Unheated basement October 19 to February 15, heated basement to March 22
23. Irish Cobbler, Eastern Shore. Unheated basement October 19 to February 28, brooder house to March 22
24. Irish Cobbler, Eastern Shore. Sweet potato storage house (55°F.) October 19 to March 21 entire storage period.
25. Irish Cobbler, Eastern Shore. 40° F., November 3 to March 18
26. Irish Cobbler, Eastern Shore. 40° F., November 3 to February 1, 65° F., February 1 to March 18
27. Irish Cobbler, Eastern Shore. 40° F., November 3 to March 5, 80° F., March 5 to March 18

Miscellaneous tests in remainder of field.

Observations on 1938 Variety, Seed Source, Storage Temperature and Disease Control Studies on the Farm of Willard T. Pilchard, Pocomoke, Maryland

Variety and Source	Treatment	Germ. Rank	% Missing	% Weak	% Leaf Roll	% Rugose Mosaic
Irish Cobbler, Maine	Ordinary storage	1	1	0	1	0
Katahdin, Md. 2500 ft. El.	Unheated basement	4	3	1	0	0
Chippewa, Md. 2500 ft. El.	Unheated basement	4	10	1.5	1	0
American Giant, Md. 2500 ft. El.	Unheated basement	5	2	3	1	0
Earlaine, Maine	Ordinary storage	1	1.5	1.5	1	0
Earlaine, Worcester Co. Md.	Unheated basement from treated spring-grown seed	5	3	0.5	1	0
Bliss Triumph, Md. 2500 ft. El.	Unheated basement	3	2.5	0	1	0
Warba, Md. 2500 ft. El.	Unheated basement	3	1.5	2.5	1	0
Warba, Worcester Co., Md.	Unheated basement from stored seed	5	2	0.5	1	0
Warba, Worcester Co., Md.	Unheated basement from spring-grown treated seed	5	1	0.5	6.5	0.5
Warba, Worcester Co., Md.	Unheated basement from spring-grown treated seed twice (5th consec. crop)	5	2	2	22	0
Nittany Cobbler, Md. 2500 ft. El.	Unheated basement	3	4	1	1.5	0
Irish Cobbler, Md. 2500 ft. El.	Unheated basement	3	9	4.5	0.5	0
Irish Cobbler, Worcester Co., Md.	Unheated basement	6	0	0.5	0	0
Irish Cobbler, Worcester Co., Md.	Unheated basement Oct. 19 to Jan. 15. Heated basement to March 22	4	0	1	0.5	0

Variety and Source	Treatment	Germ. Rank	% Missing	% Weak	% Leaf Roll	% Rugose Mosaic
Irish Cobbler, Worcester Co. Md.	Unheated basement Oct. 19 to Feb. 1 Heated basement to March 22	3	0.5	0.5	0.5	0
Irish Cobbler, Worcester Co., Md.	Unheated basement Oct. 19 to Feb. 15 Heated basement to March 22	3	1.5	0.5	0	0
Irish Cobbler, Worcester Co., Md.	Unheated basement Oct. 19 to Feb. 28 Brooder house (90°F.) to March 22	4	2	0	0.5	0
Irish Cobbler, Worcester Co., Md.	Sweet potato storage house. Entire storage period (55°F.)	2	1	0	0	0
Irish Cobbler, Worcester Co., Md.	40°F. Nov. 3 to March 18	7	3	2.5	1	0
Irish Cobbler, Worcester Co., Md.	40°F. Nov. 3 to Feb. 1 65°F. Feb. 1 to Mar. 18	3	1	0	0	0
Irish Cobbler, Worcester Co., Md.	40°F. Nov. 3 to Mar. 5 80°F. Mar. 5 to Mar. 18	4	2	1	0	0

Size of plants when germination rank was determined on April 28.

1 - 2 in. to 4 in.
2 - 1 3/4 in to 3 3/4 in.
3 - 1 1/2 in to 3 1/2 in.
4 - 1 in. to 3 in.
5 - 1/2 in to 2 1/2 in.
6 - 1/2 in to 2 in.
7 - 1/4 in. to 1 1/2 in.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 7. College Park, Maryland. July, 1938

Japanese Beetle Tour. A hundred or more persons attended the Japanese beetle tour in Cecil County on Thursday, July 21st. It was possible to see the damage actually being done to various crops and to observe the effectiveness of traps. Several farmers had beetles piled up by the bushels — one grower collecting about six bushels per day from 88 traps.

Sweet corn and asparagus of the vegetable crops appeared to be damaged most severely. The beetles feed on the silks of the corn and this prevents setting of the grain. Soybeans seem to be badly attacked. Grapes, apples and other fruits showed decided injury. Spraying or dusting drives the beetles to unprotected plants. Certain contact sprays are effective in killing beetles when properly applied.

Adjustments in growing crops are already being made. Planting sweet corn late so that it silks after the insects begin to disappear is one method of control in operation. This method has its disadvantages, however, for the later plantings of corn are more subject to attacks of the corn ear-worm.

Two parasitic wasps are being released as a control measure. These wasps attack only Japanese beetles and in the older districts in New Jersey where the parasites have had time to build up, as much as 65% of the beetle larvae have been found to be parasitized. Two procedures seem open to growers, either to learn to control the pest on crops attacked or to grow those crops and those plants which are not appreciably injured by the beetles.

Improved Varieties. As competition becomes keener, it becomes all the more important for growers to use the most suitable varieties for his particular situation and for the market to be catered to. Considerable progress has been made in recent years toward the improvement of strains. Seedsmen are devoting much time and energy to the development of types for different sections of the country and are making every effort to keep strains pure. Competition between seed growers is having a good deal to do with the improvement of stocks. Among other things considerable attention is being paid to the development of disease resistance. Plants are far from being fixed types and w hile this fact makes it possible to improve through selection, it also means that selection must be continued or else strains deteriorate.

Among the new types of lettuce are some strains of heading lettuce developed by the U. S. Department of Agriculture under the name of Columbia. These have now been released to the trade and may be of interest to those Maryland growers who are looking for an early heading lettuce of good quality.

Action of Manure. Many investigators have puzzled over the reason why manures give results which have been difficult to duplicate with commercial

fertilizers. One recent discovery throws some light upon this matter. It has been found that growth promoting substances greatly stimulate the production of root development. It has been noted also that the urine in the manure is a good source of these growth promoting substances. Apparently it requires a very small amount per acre to get the maximum results. It is not at all unlikely that these "hormones" will be added to commercial fertilizers or applied in some other way. Manures, of course, add humus to the soil and results with commercial fertilizers may still be more or less dependent upon the keeping up of the organic content of the soil.

Soils are immensely complicated substances both from the chemical and mineral makeup as well as from the biological standpoint, and the more investigators learn about soils the more complicated the problems seem to become.

Optimum Temperatures. One of the striking features of the outbreak of certain diseases is that the organism flourishes only in a narrow range of temperature and some diseases develop in low temperatures while others develop only at relatively high temperatures.

Little attention has been given to the relation of temperature to plant growth of cultivated crops, probably for the reason that little can be done to control temperatures. Some general practices, however, have grown out of a recognition of this factor. Potatoes are known to develop best at a moderately low temperature and in the warmer sections two crops are grown, an early, short season type which matures before the hot summer season and a late crop which matures in the cool fall season.

Even the so-called warm season crops are undoubtedly affected detrimentally by excessively high temperatures during the summer season. Such effects as tip-burn, sunscald and a general checking of plant growth may often be observed. Even when detrimental effects are not apparent to the eye, growers often have a feeling that plants would be better off if the temperatures were a few degrees lower.

The great difficulty in determining the degree of injury is that it is usually associated with other detrimental factors which are difficult to differentiate. Moisture deficiency, lack of fertility, insect and disease attacks may complicate the situation.

We often see growers attempting to grow crops which are not adapted to the local conditions. It is true that they sometimes find it worthwhile because of a good local market, but where they have to compete with sections with a more favorable climate it is not generally profitable to attempt the ill-adapted types. The question is often asked what is necessary for successful production of cauliflower in the warmer sections. An appropriate answer perhaps would be to say that the first essential is to change the climate. As fine cauliflower as one could wish for has been seen in Garrett County yet most of the farmers in that section prefer to grow oats, hay, buckwheat, and rape products rather than to follow out the intensive culture nexessary for some of the more profitable cool climate vegetables.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 8. College Park, Maryland. August, 1938.

History and Description of Maryland Savoy Spinach. History--The original selections for winter hardiness were made by Dr. F. W. Geise in 1924, from a field of Virginia Savoy which had been severely winter-killed. Selection for hardiness was continued and in 1930-31 another severe winter eliminated all but the hardiest lines. Dr. W. A. Frazier took over the work in 1931 and continued the selection for type and hardiness. His report for the winter of 1933-34 is presented to show the performance of the Maryland Savoy in comparison with other varieties used for the over-wintered crop.

Per cent plants killed during the winter of 1933-34

Planting Date	Old Dominion	Bloomsdale Savoy	Virginia Savoy	Md. Savoy
October 6	18.0 %	83.0%	25.5%	9.1%
October 20	69.35%	99.0%	82.5%	61.3%

It is apparent from the above table that Maryland Savoy is not immune to cold, but when planted at the proper time, it is more profitable as an over-wintered crop than either Bloomsdale Savoy or Virginia Savoy. During the winter of 1934-1935 Maryland Savoy and Old Dominion were again more tolerant of freezing weather than other varieties. The severe winter of 1935-36 showed Maryland Savoy to be significantly hardier than Old Dominion and Virginia Savoy, which had heretofore been considered the two hardiest varieties in this section. Continuous selection for type as well as for tolerance to cold has resulted in the production of a uniform new strain which is now ready for release to the trade.

Comparison with Virginia Savoy--Maryland Savoy has slightly darker green leaves than Virginia Savoy but aside from this one characteristic, the type description of the plant, method of growth, maturity date, and time of going to seed is essentially identical with that of Virginia Savoy. Canning tests have shown that the quality of Maryland Savoy is equal to that of Virginia Savoy. This new variety or strain is recommended for the fall crop, along with Virginia Savoy and Old Dominion, but is given preference over the two latter varieties for the over-wintered crop because of its superiority with respect to winter hardiness.

Originator of Mary Washington Asparagus Dead. Jesse Baker Norton, brother of J. B. S. Norton, Maryland's State Botanist, recently died at El Centro, California, where he has been serving for several years as Assistant Agricultural Commissioner in the Imperial Valley.

Dr. Norton did his breeding work with asparagus while stationed at Concord, Massachusetts. As a representative of the United States Department of Agriculture, he cooperated with the Experiment Station and the Massachusetts Asparagus Growers Association in an effort to halt the disastrous inroads of the asparagus rust.

The rust came in as an undesirable immigrant in 1896 and soon was playing havoc with commercial plantations. The rust infection reached California in 1902 but because of the dry summers it was not able to flourish and cause the damage so prevalent in the eastern section with its summer rains and dews. It was largely for this unfavorable condition for the rust that California became the center of asparagus production.

Dr. Norton started out to find individual plants free from rust and in 1908 many were found which showed considerable resistance and this resistance was transmitted to their seedlings. Unfortunately few of the selections showed much vigor nor were the shoots suitable for high money production. In 1910 a male plant was selected from a large number of seedlings in the test plots, and proved to be ideal in type and resistance and more important still transmitted this resistance and size to every lot of seedlings. This was recognized as a lucky find and has never been beaten as breeding stock. A search for this ideal female plant was instituted and it was finally found in a field of Reading Giant. This plant was moved to the Arlington farm near Washington and crossed with the Washington male. The result was the Mary Washington strain which now constitutes the large percentage of the commercial plantings. The Martha Washington which was first introduced did not prove desirable and Dr. Norton always regretted that it had been put out.

Mr. David R. Coker of the Pedigreed Seed Company, Hartsville, South Carolina, was largely responsible for establishing the Mary Washington as a commercial variety but the initial development was due almost entirely to the keen observation and scientific knowledge of scientific principles of Dr. Norton. This was a notable achievement in the early days of modern scientific breeding and was a forerunner of much recent accomplishments in the field of vegetable breeding.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 9. College Park, Maryland. September, 1938.

The Annual Meetings. The issuing of this number of the News Letter has been held up pending receipt of information as to whether money would be made available by the State Fair Board for enlarging the winter exhibit to include certain vegetables in addition to the regular potato display. Word has just been received that the budget set up has been approved and plans will now go forward for enlarging the exhibit. The exhibit will still be installed in the Lord Baltimore Hotel, but the poultry interests will be taken care of in some outside building, thus releasing space for the additional entries of other products.

Notwithstanding the fact that the dates for the show are rather late for many of the vegetables, the schedule has been set up to include, primarily those types which can readily be stored.

It would be appreciated if the members will enter as many classes as possible and induce neighbors and friends to do the same.

Schedule of Classes for State Vegetable Exhibit. Lord Baltimore Hotel, Baltimore, Maryland, January 10, 11, 12, 1939.

Sponsored by the Maryland Vegetable Growers Association.

General Rules

Exhibits may be entered only by growers and only one entry may be made in each class.

No entry fee will be charged. One dollar will be extracted from premiums for membership in the Maryland Vegetable Growers Association.

Exhibits should be sent by prepaid express or parcel post to the State Vegetable Exhibit, Lord Baltimore Hotel, c/o W. R. Ballard, Baltimore, Maryland, and should arrive not later than January 10th. Judging will begin at 10:00 A. M. on January 11th and no entries will be received after that time.

Arrangements for return of exhibits must be made by the exhibitors, otherwise the exhibits will be disposed of by the Maryland Vegetable Growers Association.

Premium List

Class 1. Best 3 heads cabbage, Flathead type — 1st. $4.00; 2nd $3.00; 3rd

" 1a. " $2.00 " " Ballhead " " " " "

Class 2. Best 3 heads cabbage, Savoy type — 1st. $4.00; 2nd. $3.00; 3rd. $2.00

Dr. Norton did his breeding work with asparagus while stationed at Concord, Massachusetts. As a representative of the United States Department of Agriculture, he cooperated with the Experiment Station and the Massachusetts Asparagus Growers Association in an effort to halt the disastrous inroads of the asparagus rust.

The rust came in as an undesirable immigrant in 1896 and soon was playing havoc with commercial plantations. The rust infection reached California in 1902 but because of the dry summers it was not able to flourish and cause the damage so prevalent in the eastern section with its summer rains and dews. It was largely for this unfavorable condition for the rust that California became the center of asparagus production.

Dr. Norton started out to find individual plants free from rust and in 1908 many were found which showed considerable resistance and this resistance was transmitted to their seedlings. Unfortunately few of the selections showed much vigor nor were the shoots suitable for high money production. In 1910 a male plant was selected from a large number of seedlings in the test plots, and proved to be ideal in type and resistance and more important still transmitted this resistance and size to every lot of seedlings. This was recognized as a lucky find and has never been beaten as breeding stock. A search for this ideal female plant was instituted and it was finally found in a field of Reading Giant. This plant was moved to the Arlington farm near Washington and crossed with the Washington male. The result was the Mary Washington strain which now constitutes the large percentage of the commercial plantings. The Martha Washington which was first introduced did not prove desirable and Dr. Norton always regretted that it had been put out.

Mr. David R. Coker of the Pedigreed Seed Company, Hartsville, South Carolina, was largely responsible for establishing the Mary Washington as a commercial variety but the initial development was due almost entirely to the keen observation and scientific knowledge of scientific principles of Dr. Norton. This was a notable achievement in the early days of modern scientific breeding and was a forerunner of much recent accomplishments in the field of vegetable breeding.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 9. College Park, Maryland. September, 1938.

The Annual Meetings. The issuing of this number of the News Letter has been held up pending receipt of information as to whether money would be made available by the State Fair Board for enlarging the winter exhibit to include certain vegetables in addition to the regular potato display. Word has just been received that the budget set up has been approved and plans will now go forward for enlarging the exhibit. The exhibit will still be installed in the Lord Baltimore Hotel, but the poultry interests will be taken care of in some outside building, thus releasing space for the additional entries of other products.

Notwithstanding the fact that the dates for the show are rather late for many of the vegetables, the schedule has been set up to include, primarily those types which can readily be stored.

It would be appreciated if the members will enter as many classes as possible and induce neighbors and friends to do the same.

Schedule of Classes for State Vegetable Exhibit. Lord Baltimore Hotel, Baltimore, Maryland, January 10, 11, 12, 1939.

Sponsored by the Maryland Vegetable Growers Association.

General Rules

Exhibits may be entered only by growers and only one entry may be made in each class.

No entry fee will be charged. One dollar will be extracted from premiums for membership in the Maryland Vegetable Growers Association.

Exhibits should be sent by prepaid express or parcel post to the State Vegetable Exhibit, Lord Baltimore Hotel, c/o W. R. Ballard, Baltimore, Maryland, and should arrive not later than January 10th. Judging will begin at 10:00 A. M. on January 11th and no entries will be received after that time.

Arrangements for return of exhibits must be made by the exhibitors, otherwise the exhibits will be disposed of by the Maryland Vegetable Growers Association.

Premium List

Class 1. Best 3 heads cabbage, Flathead type — 1st. $4.00; 2nd $3.00; 3rd $2.00

" 1a. " Ballhead " " " " "

Class 2. Best 3 heads cabbage, Savoy type — 1st. $4.00; 2nd. $3.00; 3rd. $2.00

Class 4. Best 16 yellow onions — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 5. Best 16 white onions — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 6. Best 16 red onions — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 7. Best display onion sets, not less than 1 quart — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 8. Best 12 carrots, any variety — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 9. Best 12 table beets, any variety — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 10. Best 12 parsnips — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 11. Best 16 turnips — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 12. Best 16 rutabagas — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 13. Best 3 Hubbard squash, any type — 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

Class 14. Largest Pumpkin (orsquash) any type. 1st. $4.00; 2nd. $3.00; 3rd. $2.00.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 10. College Park, Maryland. October, 1938.

Rate of Seeding Tests, 1937. A report of seeding tests of Henderson Bush Limas at the Ridgely Sub-station has just come to hand. Plots consisted of four rows each, 100 x 3 feet. Tests were triplicated and results were calculated on the acre basis.

The following summary gives the significant facts in the test.

SUMMARY

Seeding rate	Stand-plants per yard	Yield per acre - lbs.
30 lbs. per acre	3.00	2206
40 " " "	4.92	2958
55 " " "	6.76	2800

Considerable information has been gathered in recent years at several Experiment Stations relative to the causes of low yields. The consensus of opinion seems to be that high temperatures and dry atmosphere are detrimental to setting of the beans. It at least seems plausible that artificial shading might induce a greater percentage of set, but it remains to be seen whether increased yields would pay for the extra cost of cloth tents. This might offer a fruitful field for experimenting.

Certification of Vegetable Seeds. A request has recently been received regarding the possibility of adding watermelon and pepper seeds to the list of types for certification by the Seed Certification Board. This question is more or less tied up with the purport of the resolution adopted by the Vegetable Growers' Association at their last meeting, to wit: "Resolved that the Maryland Vegetable Growers' Association favor the extension of the seed law to cover seeds of vegetable crops." As Mr. F. S. Holmes, of the Seed Laboratory, brought out in his article in the April news letter, there is danger that states having no vegetable seed legislation may become the dumping ground for the less desirable vegetable seeds.

The Association of official Seed Analysts have recently agreed upon vegetable seed legislation that the organization recommends for enactment by the several states. In addition to the items of percentage of pure seed, percentage of germination, and noxious seed content, trueness to type or strain is of primary importance to the vegetable producer.

"In order to provide this essential item of information, the testing of vegetable seeds must extend beyond the laboratory into the field where systematic trials of vegetable seeds must be carried on from year to year."

To draft a suitable law is a simple matter, but legislation should include the very necessary item of appropriation for adequate field testing and personnel and must moreover be backed up by enlightened public opinion if enforcement is to be expected.

The solution of the problem rests with the growers, and if they will unite in their demands for such legislation there is little doubt that it could be accomplished.

The Association stands ready to take the lead in such a project. Its importance is unquestionable and the Association could well undertake its promotion.

Color Photography to the Front. It has always been difficult to adequately portray vegetable crops in the medium of the ordinary black and white photograph. To differentiate satisfactorily between varying shades of green and red has been well nigh impossible.

The rapid perfecting of color photography bids fair to solve this difficulty. A simple and usable printing process in color is not yet available but for projection on a special screen the color film leaves little to be desired. A fairly good camera is needed and an electric light meter is highly desirable, since the exposure must be about right to get the proper value in the different colors. However, excellent results have been secured by amateurs who are moderately proficient with the black and white films.

The color film will be quite useful in recording types of vegetables as well as variations from the normal. It lends itself readily to detailed portrayal of diseased portions of plants, particular forms of insects and innumerable other items of interest to the vegetable grower.

If desired, movie pictures can be taken of machinery in operation, or of other operations connected with the planting, cultivating, spraying, harvesting and marketing of vegetable crops.

Diseases of Vegetables. The Bureau of Plant Industry occasionally issues miscellaneous publications of interest to vegetable growers. Two of especial interest to shippers are Misc. Publication No. 121, Market Diseases of Fruits and Vegetables — Tomatoes, Peppers, Eggplants, and No. 292 — Crucifers and Cucurbits. The particular value of these publications to growers is the unusually good photographs of the various diseases, many of them in their natural colors. While some of the diseases pictured are primarily storage troubles, others are of diseases commonly met with in the field. These bulletins are not printed for general distribution but they can be secured from the Superintendent of Public Documents, Government Printing Office, Washington, D. C., upon payment of twenty and forty-five cents each respectively. Stamps are not accepted in payment. For shippers these should be very helpful in determining causes for losses in the shipment of vegetable products, as well as in suggesting proper control measures where such are available.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 11. College Park, Maryland. November, 1938.

Thos. H. White Retires. On October 31st, Mr. White completed forty years of service with the Maryland Experiment Station. Coming from England as a young man, he first located with other members of the family in Charles County near White Plains. Having been trained as a gardener, he soon found employment with a trucker at College Park located on the area upon which the Todd Laboratory is now situated.

Soon thereafter he was appointed to a position on the staff of the Experiment Station. Possessed of an inquiring turn of mind, Mr. White interested himself in attempting to solve many of the problems attending the culture of vegetables and flowering plants. One of his early discoveries was that pithiness in celery is due to hereditary qualities.

Director J. E. Metzger has stated that Mr. White has his name, either as author or co-author, on more bulletins than anyone else who has ever been connected with the Maryland Experiment Station.

One of his more recent achievements has been the selection and introduction of the Maryland Golden sweet potato which has made such an important impression upon this industry in the State.

The best wishes of his co-workers and a host of friends is that he may still have many years in which to experiment with plants and to enjoy the fruits of his labors.

Serious Problem with Sweet Corn. This is one of the important field crops seriously attacked by the Japanese beetle. The beetles feed upon the silks which prevents effective pollination and thus interferes with satisfactory setting of the grain. Late planting has been suggested as a way around this difficulty but tests recently made indicate that yields on late planted plots are likely to be smaller than those from early plantings in spite of attacks by the beetle.

The margin of profit on this crop is so small that no effective control measures at present appear to be economical. It remains to be seen what new methods of attack may arise to solve this very pressing problem.

Japanese Beetle Work. Dr. Langford has just recently reported on the 1938 campaign to retard the spread of the Japanese beetle. The beetle has been found in every county except Garrett. Beetles are abundant in all Cecil, northern Harford, and Kent counties, Patapsco Neck, Baltimore county, Kings Creek area in Somerset County, and in the towns of Cambridge, Newark, Poconoke, Brooklyn, Linthicum Heights, Brunswick, and Baltimore City.

"In order to provide this essential item of information, the testing of vegetable seeds must extend beyond the laboratory into the field where systematic trials of vegetable seeds must be carried on from year to year."

To draft a suitable law is a simple matter, but legislation should include the very necessary item of appropriation for adequate field testing and personnel and must moreover be backed up by enlightened public opinion if enforcement is to be expected.

The solution of the problem rests with the growers, and if they will unite in their demands for such legislation there is little doubt that it could be accomplished.

The Association stands ready to take the lead in such a project. Its importance is unquestionable and the Association could well undertake its promotion.

Color Photography to the Front. It has always been difficult to adequately portray vegetable crops in the medium of the ordinary black and white photograph. To differentiate satisfactorily between varying shades of green and red has been well nigh impossible.

The rapid perfecting of color photography bids fair to solve this difficulty. A simple and usable printing process in color is not yet available but for projection on a special screen the color film leaves little to be desired. A fairly good camera is needed and an electric light meter is highly desirable, since the exposure must be about right to get the proper value in the different colors. However, excellent results have been secured by amateurs who are moderately proficient with the black and white films.

The color film will be quite useful in recording types of vegetables as well as variations from the normal. It lends itself readily to detailed portrayal of diseased portions of plants, particular forms of insects and innumerable other items of interest to the vegetable grower.

If desired, movie pictures can be taken of machinery in operation, or of other operations connected with the planting, cultivating, spraying, harvesting and marketing of vegetable crops.

Diseases of Vegetables. The Bureau of Plant Industry occasionally issues miscellaneous publications of interest to vegetable growers. Two of especial interest to shippers are Misc. Publication No. 121, Market Diseases of Fruits and Vegetables — Tomatoes, Peppers, Eggplants, and No. 292 — Crucifers and Cucurbits. The particular value of these publications to growers is the unusually good photographs of the various diseases, many of them in their natural colors. While some of the diseases pictured are primarily storage troubles, others are of diseases commonly met with in the field. These bulletins are not printed for general distribution but they can be secured from the Superintendent of Public Documents, Government Printing Office, Washington, D. C., upon payment of twenty and forty-five cents each respectively. Stamps are not accepted in payment. For shippers these should be very helpful in determining causes for losses in the shipment of vegetable products, as well as in suggesting proper control measures where such are available.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 11. College Park, Maryland. November, 1938.

Thos. H. White Retires. On October 31st, Mr. White completed forty years of service with the Maryland Experiment Station. Coming from England as a young man, he first located with other members of the family in Charles County near White Plains. Having been trained as a gardener, he soon found employment with a trucker at College Park located on the area upon which the Todd Laboratory is now situated.

Soon thereafter he was appointed to a position on the staff of the Experiment Station. Possessed of an inquiring turn of mind, Mr. White interested himself in attempting to solve many of the problems attending the culture of vegetables and flowering plants. One of his early discoveries was that pithiness in celery is due to hereditary qualities.

Director J. E. Metzger has stated that Mr. White has his name, either as author or co-author, on more bulletins than anyone else who has ever been connected with the Maryland Experiment Station.

One of his more recent achievements has been the selection and introduction of the Maryland Golden sweet potato which has made such an important impression upon this industry in the State.

The best wishes of his co-workers and a host of friends is that he may still have many years in which to experiment with plants and to enjoy the fruits of his labors.

Serious Problem with Sweet Corn. This is one of the important field crops seriously attacked by the Japanese beetle. The beetles feed upon the silks which prevents effective pollination and thus interferes with satisfactory setting of the grain. Late planting has been suggested as a way around this difficulty but tests recently made indicate that yields on late planted plots are likely to be smaller than those from early plantings in spite of attacks by the beetle.

The margin of profit on this crop is so small that no effective control measures at present appear to be economical. It remains to be seen what new methods of attack may arise to solve this very pressing problem.

Japanese Beetle Work. Dr. Langford has just recently reported on the 1938 campaign to retard the spread of the Japanese beetle. The beetle has been found in every county except Garrett. Beetles are abundant in all Cecil, northern Harford, and Kent counties, Patapsco Neck, Baltimore county, Kings Creek area in Somerset County, and in the towns of Cambridge, Newark, Pocomoke, Brooklyn, Linthicum Heights, Brunswick, and Baltimore City.

They are rather generally distributed in Frederick, Queen Annes, Caroline, Wicomico, Worcester, Prince George's, Montgomery, and Anne Arundel counties.

Records show that 615.85 barrels of beetles were captured in traps, 533 barrels having been caught on 77 farms in the heavily infested area in Cecil county.

One method of fighting the beetle is through the establishment of parasites. There are two of these which have done effective work in the older infested areas, and there were 364 colonies liberated in Maryland during the past year.

More effective sprays for combating this insect are being devised and this important method is not to be overlooked.

The spread of the beetle will undoubtedly force some adjustments in the growing of various crops so as to avoid as much injury as possible.

President Hawkins Appoints Committee. President Egbert Hawkins has asked F. Ridgely Todd, E. H. Hammond, and R. T. Merritt to serve on a committee to recommend changes in the organization to better meet the needs of the day. This committee is to report to the annual meeting in January, 1939.

Potato Diseases in Maryland For the 1938 Season. By — Dr. R. A. Jehle. The losses from potato diseases in Maryland in 1938 were the largest they have been for many years. It is estimated that these losses will amount to approximately 37.5% of the crop, distributed as follows: late blight (Phytophthora infestans) 25%, scab (Actinomyces solanacearum) 2%, leaf roll (Virus) 2.5%, wilt (Fusarium spp.) and (Bacillus solanacearum) 2%, mosaic (Virus) 1%, early blight (Alternaria solani) 0.5%, blackleg (Bacillus phytophthorus) 0.5% tip burn and hopperburn (Non-parasitic and leaf hoppers) 0.5%, and other diseases such as spindle tuber, curly dwarf, yellow dwarf, etc. 0.5%.

This year late blight was found in potato fields located in every part of the State. It is usually confined to the western part of the State, where the elevation ranges from 1000 to 3000 feet above sea level. There it caused a loss of about 50% of the crop this year, due to its early appearance and difficulty of control. Vines of all growers who did not spray or dust thoroughly enough were killed prematurely, with resultant low yields and poor quality. Fortunately, there was not much rain when the late potato crop was dug in the western part of the State, and losses from tuber rot were not very large.

Late blight was observed on the early Irish Cobbler potato crop on the Eastern Shore by the writer for the first time since he came to Maryland in 1921. The disease appeared late in the season and did not cause much injury to the vines or reduction in yield. It was, however, responsible for severe losses from tuber rot. It prevented many growers from meeting grade requirements and caused much loss from tuber rot in transit. This condition was partially responsible for the unusually low prices received for the early potato crop. Potato dealers could not afford to pay much for the crop because of the risk of severe losses from tuber rot. It is estimated that the loss to the Eastern Shore potato growers from late blight amounted to at least 15% of the value of the crop.

The late seed and table stock potato crop has also been attacked by late blight, and reduced yields were obtained by all growers who did not thoroughly spray or dust their vines. This crop has just been dug, and reports of late blight rot have come in from several fields. It is estimated that the combined loss from late blight in the vines and tubers in the late seed and table stock potato crop will amount to approximately 25% of the value of the crop.

Losses from Fusarium wilt (Fusarium spp.), which are usually very large in the western part of the State, were much less than usual. These diseases are usually much more prevalent during hot, dry seasons than they are during cool, wet seasons, such as we had last year. On the other hand, losses from southern bacterial wilt (Bacillus solanacearum) were larger than usual. Losses from this disease were largest in the late Eastern Shore seed and table stock crop, where the rainfall was unusually large during the growing season. The losses from these diseases are estimated at approximately 1% of the crop of each disease. Losses from leaf roll were somewhat larger than usual, due to planting much diseased northern grown seed stock. Out of 285.5 acres of late grown Irish seed potatoes inspected for certification, 56.5 acres, or approximately 2%, were disqualified on account of leaf roll. Losses from leaf roll were estimated at 2% of the value of the crop from decreased yields and 0.5% of the value of the crop from failure of seed stock to certify. Losses from other diseases were approximately the same as they have been during the past few years.

The University of Maryland is cooperating with the United States Department of Agriculture and other States in an effort to control potato diseases by the use of disease-resistant varieties. The susceptibility of many potato seedlings to late blight, wilt, scab, and virus diseases is being studied. The most progress has been made in resistance to late blight. In experiments conducted in 1938 at Oakland, Maryla nd, where the elevation is between 2500 and 3000 feet above sea level, five blight resistant seedlings yielded more than any of the rural varieties. The rural varieties are the highest yielding commercial varieties, which are grown in Maryland at elevations above 1000 feet above sea level. In the 1938 experimental plots at Oakland, ten rural strains yielded from 220 to 291 bushels per acre, and five blight resistant seedlings yielded from 323 to 443 bushels per acre. None of the rural varieties or strains were resistant to late blight. The entire field was thoroughly sprayed ten times with Bordeaux Mixture. Resistance to late blight was studied in another unsprayed field.

NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard,
Secretary-Treasurer.

Vol. XV. No. 12. College Park, Maryland. December, 1938.

Is There Danger Here? One of the elements which has promoted agriculture and industry in this country in the past has been the absence of restrictions on trade and transportation between the several states. In recent years, however, there has been growing up unaware various restraints preventing free and unlimited exchange. When specific regulations are examined, it is not difficult to find arguments in their support. An example of such restrictions are the various quarantines designed to prevent the spread of contagious diseases or injurious insects. Similar bans designed to protect certain areas from competition with other areas are becoming increasingly urged. Without discussing the merits of specific regulations, is it not a fair question to ask, "Will not the supposed local benefits in the long run be overbalanced by the general damage to a free moving commerce? For as has already been proved in several instances, retaliatory measures can be taken by the area discriminated against to nullify the restrictions, yet both areas may still suffer from the restraint to trade. This is admittedly a large question but one which should be approached from the broad standpoint of the greatest good to the country as a whole.

Freezing Vegetables. H. C. Diehl, Senior Chemist, Frozen Pack Laboratory, Bureau of Chemistry and Soils, Seattle, Washington, who discussed this subject at the last annual meeting has recently issued Miscellaneous Extension Publication 47 under the title, Storage of Fruits and Vegetables in Community Lockers. Miriam Birdseye, Senior Nutritionist, Division of Cooperative Extension, cooperated in this work.

The use of frozen foods has spread rapidly and will no doubt continue to develop in the future.

The work so far indicates that only certain vegetables can be successfully handled by this method and particular varieties give better results than others. The best available information along this line is outlined in the publication referred to above.

Vegetables which are now being frozen successfully include asparagus, green string beans, wax beans, lima beans, broccoli, spinach, Brussel's sprouts, cauliflower, sweet corn, kale, mushrooms, peas, rhubarb and squash.

Directions are given for handling the various types both in processing storing, and in preparation for the table. Those particularly interested in this method should see the publication.